

WHAT IS CLAIMED IS:

1. A thermoplastic elastomer (TPE) composition comprising crosslinked polyvinylbutyral (PVBX) and a thermoplastic polymer, wherein
5 the thermoplastic polymer is a continuous phase of the TPE having dispersed therein the elastomeric PVBX.
2. The composition of Claim 1 wherein the PVBX is present in an amount of from about 25 wt% to about 95 wt%.
- 10 3. The composition of Claim 2 wherein the PVBX is present in an amount of from about 50 wt% to about 90 wt%.
4. The composition of Claim 3 wherein the PVBX is present in an
15 amount of from about 75 wt% to about 90 wt%.
5. The composition of Claim 1 wherein PVBX is the product of the crosslinking reaction between modified PVB and crosslinking agents
20 selected from the group consisting of: polycarboxylic acids or functional equivalents thereof; diisocyanates; and diisocyanate oligomers.
6. The composition of Claim 1 wherein the continuous phase is at least one thermoplastic polymer selected from polymers in the group
25 consisting of: polypropylenes; polyethylenes; polyvinylchlorides; polystyrenes; polyamides; polycarbonates; poly(acrylic acid); polyacrylates; poly(methy methacrylates); styrenic copolymers; polyvinylidene chlorides; polyesters; polyacetals; copolyesters; and polysulfones.
- 30 7. The composition of Claim 6 wherein the continuous phase is polypropylene or polyvinylchloride.

8. The composition Claim 7 wherein the continuous phase is polypropylene.
- 5 9. The composition of Claim 1 wherein the thermoplastic polymer is present in an amount of from about 75 wt% to about 5 wt%.
10. The composition of Claim 9 wherein the thermoplastic polymer is present in an amount of from about 50 wt% to about 10 wt%.
- 10 11. The composition of Claim 10 wherein the thermoplastic polymer is present in an amount of from about 25 wt% to about 10 wt%.
12. A process for preparing a composition comprising a PVBX
15 elastomer dispersed in a thermoplastic polymer continuous phase comprising the step of using a crosslinking agent in a crosslinking reaction to crosslink a modified non-blocking PVB composition in the presence of a thermoplastic polymer to form PVBX as a dispersed elastomer in the thermoplastic polymer phase.
- 20 13. The process of Claim 12 wherein the crosslinking agent is an agent selected from the group consisting of: polycarboxylic acids or functional equivalents thereof; diisocyanates; and diisocyanate oligomers.
- 25 14. The process of Claim 13 wherein a catalyst is used to catalyze the crosslinking reaction.
15. A process for preparing a composition comprising a PVBX
30 elastomer dispersed in a thermoplastic polymer continuous phase comprising the steps of: (1) combining PVB, a thermoplastic polymer, and a PVB modifying agent; (2) modifying PVB in the presence of the thermoplastic polymer to form a modified non-blocking PVB/thermoplastic

polymer mixture and (3) using a crosslinking agent to crosslink the modified non-blocking PVB/thermoplastic polymer composition to form PVBX as a dispersed elastomer in the thermoplastic polymer phase.

- 5 16. An elastomeric crosslinked polyvinylbutyral composition (PVBX) obtained by a process comprising the steps: (1) heating PVB in the presence of a modifying agent to obtain a non-blocking PVB composition (2) heating the modified PVB composition in the presence of a PVB crosslinking agent and a catalyst, wherein the conditions are sufficient for
10 a crosslinking reaction to take place between PVB and the crosslinking agent, to obtain the elastomeric PVBX.
17. An article prepared from the TPE composition of Claim 1.
- 15 18. The article of Claim 17 wherein the article is a hose, tube liner, seal, sheet, belt, wire and cable jacket, wheel, shoe sole, film, or grip.